



CITY COUNCIL

AGENDA REQUEST

AGENDA OF:	02-20-07	AGENDA REQUEST NO:	III K
INITIATED BY:	PETE POLITO, PROJECT MANAGER	RESPONSIBLE DEPARTMENT:	PUBLIC WORKS
PRESENTED BY:	SUELLEN STAGGS, DIRECTOR OF UTILITIES	DEPARTMENT HEAD:	MIKE HOBBS, DIRECTOR OF PUBLIC WORKS <i>mh</i>
		ADDITIONAL DEPARTMENT HEAD (S):	SUELLEN STAGGS, DIRECTOR OF UTILITIES <i>smg</i>
SUBJECT / PROCEEDING:	NORTH WASTEWATER TREATMENT PLANT DIVERSION AND FORCE MAIN UPGRADE PROJECT AUTHORIZE ENGINEERING CONTRACT		
EXHIBITS:	PROJECT LOCATION MAP ENGINEER'S PROPOSAL		
CLEARANCES		APPROVAL	
LEGAL:		EXECUTIVE DIRECTOR:	N/A
PURCHASING:	JENNIFER MONTGOMERY <i>Jm</i> PURCHASING MANAGER	ASST. CITY MANAGER:	KAREN GLYNN <i>Kg</i>
BUDGET:	JENNIFER BROWN <i>JB</i> ASSISTANT FISCAL SERVICES DIRECTOR	CITY MANAGER:	ALLEN BOGARD <i>Kg</i> /FOR AB
BUDGET			
EXPENDITURE REQUIRED: \$		194,395	
AMOUNT BUDGETED/REALLOCATION: \$		1,203,549 IN WW0702	
ADDITIONAL APPROPRIATION: \$			
RECOMMENDED ACTION			
Utilities staff is requesting that City Council authorize the execution of a professional services contract between the City and Lockwood, Andrews & Newnam, Inc., for engineering services and design of the North Wastewater Treatment Plant Diversion and Force Main Upgrade Project, in an amount not to exceed \$194,395.00			

EXECUTIVE SUMMARY

The Utilities Department solicited a proposal from the firm of Lockwood, Andrews & Newnam, Inc., (LAN) to provide engineering services for the North Wastewater Treatment Plant Diversion and Force Main Upgrade Project. LAN has successfully completed design of several water/wastewater projects for the City over the last 25 years and the work has always been considered among the best. The contract scope of work is as follows:

Basic Engineering Services

Design Phase Services

- Prepare Design Plans, Technical Specifications and Special Conditions to contract documents.
- Prepare Itemized Bid Form and Proposal (City will supply format).
- Easement Preparations
- Permits & Agency Approvals – TxDOT, Levees & Pipe Lines

Bid Phase Services

- Assist City in preparing advertisement of Project (Notice to Bidders).
- Attend pre-bid conference.
- Assist City in receiving bids from contractors.
- Review bids, prepare bid tabulation and assist City in awarding contract.

Additional Engineering Services

- Surveying
- Geotechnical

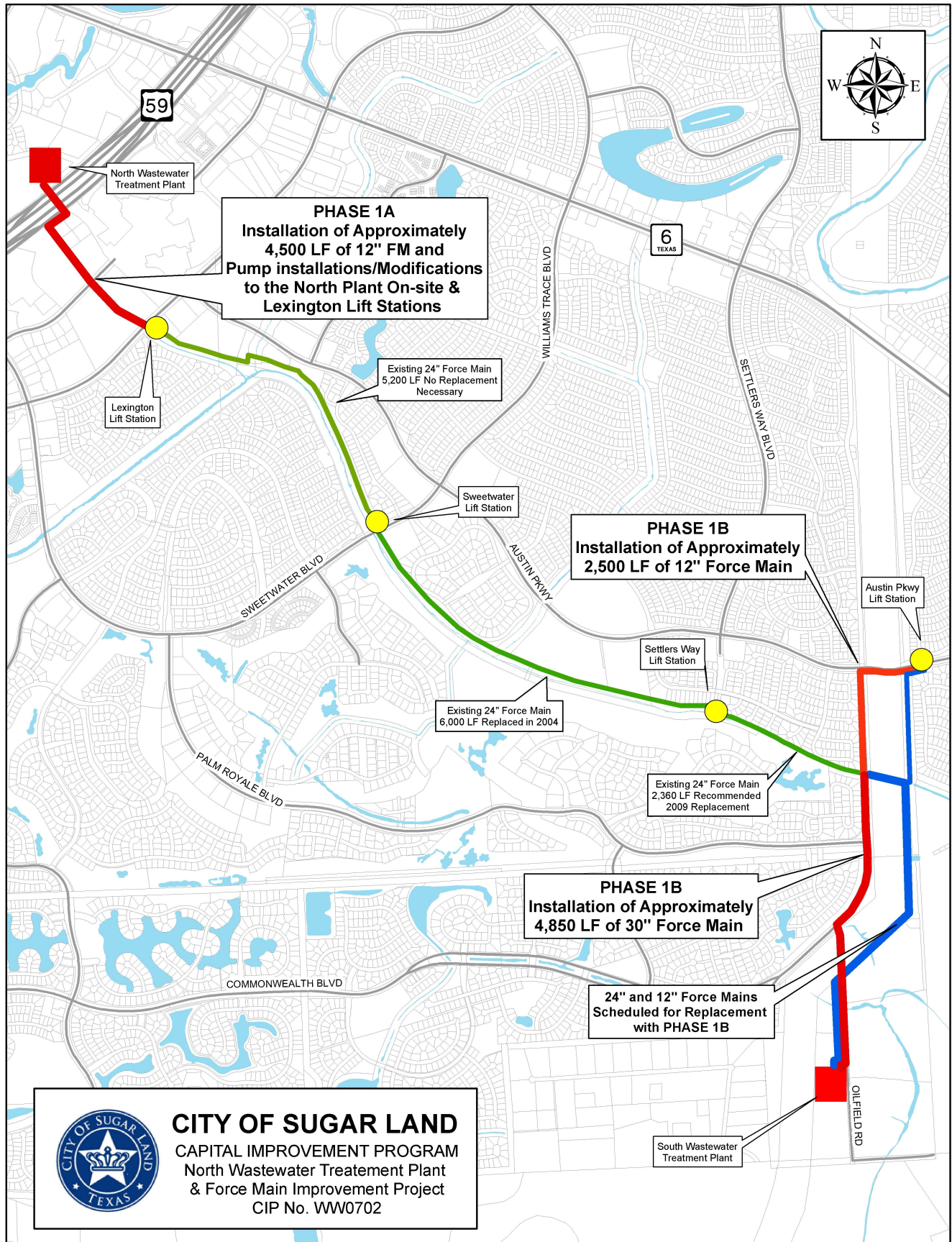
Completion of the Flow diversion project will divert 1.5 MGD of raw wastewater from the North Wastewater Treatment plant to the South Wastewater Treatment Plant. The Wastewater Treatment Plant Flow Diversion Project is a recommendation of the Wastewater Master Plan. The Master Plan indicates that based on current and projected development, the North plant will reach maximum designed flow capacity by 2008. The City's South Wastewater Treatment Plant currently has available treatment capacity. Diverting flow from the North plant to the City's South Plant will delay the need for costly treatment expansion. The diversion also will make capacity available for future development in the North Service Area. The diversion project is being designed to accommodate future expansion to 2.5 MGD if needed.

Preliminary Engineering for the diversion recommends the project be completed in two initial phases. Phase 1A of the diversion will be accomplished by the installation of approximately 4,500 L.F. of 12-inch force main from the North plant to the Lexington lift station (see attached project map); the addition of pumps and modifications to the North plant on-site lift station; and additional pumps and modifications at the Lexington lift station. Design of Phase 1A is scheduled for completion in August 2007, with construction budgeted for FY2008.

The project's preliminary engineering also indicated that the 24-inch force main downstream of the Settlers Way lift station was at capacity and requires upsizing, with or without the proposed diversion. Phase 1B will be accomplished by the installation of approximately 4,850 L.F. of 30-inch force main along Commonwealth Boulevard and Oil Field Road (see attached project map), from a point downstream of the Settlers Way lift station where two force mains connect, to the South Wastewater Treatment Plant headworks. This section of force main is deteriorating and has experienced numerous leaks over the last few years. Construction of Phase 1B will replace the sections of failing force main and eliminate the force main capacity problem, which will allow for the additional 1.5 MGD of flow to be diverted. Phase 1B will also replace approximately 2,500 L.F. of 12-inch force main along Austin Parkway that has deteriorated and experienced several failures. Due to the deteriorating condition of the existing force mains an accelerated design and construction schedule has been requested. Design of Phase 1B is scheduled for completion in June 2007. Construction of Phase 1B, with a 6-8 month completion time should be completed in early 2008.

Engineering services to complete Phase 1A and 1B design and construction for Phase 1B have been included in the 2007 Capital Improvement Plan. Currently there is \$1,203,349 available in the North Treatment Plant Diversion Project, CIP No. WW0702, which is funded from CIP fund balance. With the proposed project schedule, the flow diversion should be on line by the early summer of 2008, which meets the City's capacity needs. Staff recommends City Council authorize the execution of a professional services contract between the City and Lockwood, Andrews & Newnam, Inc., for engineering services and design of the North Wastewater Treatment Plant Diversion and Force Main Upgrade Project, in an amount not to exceed \$194,395.00

EXHIBITS





**Lockwood, Andrews
& Newnam, Inc.**
A LEO A DALY COMPANY

February 9, 2007

City of Sugar Land
P.O. Box 110
Sugar Land, TX 77487-0110

Attention: Mr. Pete Polito

Subject: Proposed City of Sugar Land Wastewater Treatment Plant Diversion and
Forcemain Upgrade Project - Phase 1A & 1B

Dear Pete,

As requested, enclosed herewith is a proposal to provide engineering services for the design of the above referenced project. The project will include:

- 12-inch diversion force main from the North Waste Water Treatment Plant (WWTP) to the manhole just west of Lexington Blvd., upstream of Lift Station #128 (Aa)
- Addition of a pump at the North WWTP for the diversion force main
- Addition of a 30-inch force main within the limits of the street right-of-way to the South WWTP from the point where Lift Stations #126 (Ad) and Kd force mains combine
- Installation of a 12-inch force main from the Austin Parkway Lift Station to the proposed 30-inch force main within the limits of the existing right of way of Austin Parkway and Commonwealth Blvd.

Basic services for the project will provide the engineering support necessary for successful advertisement and award by the City for the above referenced projects. The project will be bid in two phases, 1A and 1B. See Attachment A for project schedules. Phase 1B will bid first and is being designed on an expedited schedule.

The drawings will be prepared in accordance with the City of Sugar Land standards and criteria. Basic services will also include the preparation of technical specifications, project specific details, construction cost estimates and associated administration services. In addition, a geotechnical investigation and survey along the proposed alignment will also be performed as additional service tasks (Refer to Attachments).

We propose to complete this work for a lump sum reimbursement of \$140,000 for the basic design services and \$54,395 for the additional service tasks. A summary of the engineering fees associated with this work is included in Attachment B, a detailed level

Pete Polito
City of Sugar Land
February 9, 2007
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of effort, with a man-hour estimate by classification, is provided in Attachment C and a preliminary cost estimate is shown in Attachment D.

This proposal does not include the provision of any construction phase services to be performed by the engineer; such services will be negotiated at the time of construction. Furthermore, it assumes the adequacy of the existing available topographic survey and the engineer's ability to incorporate this information into the new design. We are prepared to begin the work associated with these tasks immediately following authorization.

If you have any questions or require any additional information, please do not hesitate to contact me at (713) 821-0420 or Shelley Serres at (713) 821-0426.

Sincerely,



For Steve Gilbreath, P.E.
Department Manager

Attachments:

Project Schedule
Summary of Engineering Fees
Level of Effort
Preliminary Cost Estimate
Geotechnical Investigation Proposal
Topographic Services Proposal



Attachment A
City of Sugar Land Wastewater Treatment Plant
Diversion and Forcemain Upgrade Project
Phase 1A & 1B
Project Schedule



Phase 1A	
Notice to Proceed	February 20, 2007
Survey	March 20 - April 15, 2007
90% Submittal	June 30, 2007
City 90% Review & Comments	July 1 - July 14, 2007
100% Submittal	August 1, 2007
Advertising	August 8 & 15, 2007
Bidding Phase	August 8 - August 23, 2007
Contractor Notice to Proceed	September 1, 2007
Construction Phase	September 2007 - February 2008

Phase 1B	
Notice to Proceed	February 20, 2007
Survey	February 20 - March 20, 2007
90% Submittal	May 15, 2007
City 90% Review & Comments	May 15 - May 22, 2007
100% Submittal	June 1, 2007
Advertising	June 6 & June 13, 2007
Bidding Phase	June 6 - June 21, 2007
Contractor Notice to Proceed	Late June 2007
Construction Phase	July 2007 - February 2008



ATTACHMENT B
City of Sugar Land Wastewater Treatment Plant
Diversion and Forcemain Upgrade Project
Phase 1A & 1B
Summary of Engineering Fees



Basic Engineering Serv (See attached Manhour Breakdown)

Final Design Document Preparation (Phase 1A & 1B) \$ 140,000

Construction Phase Services (To be negotiated at time of construction)

\$ -
\$ 140,000

Additional Services:

Topographic Services (Phase 1A & 1B) \$ 39,510

Geotechnical Investigation (Phase 1A & 1B) \$ 9,940

\$ 49,450

10% Markup

\$ 4,945
\$ 54,395

TOTAL BASIC and ADDITIONAL SERVICES

\$ 194,395



ATTACHMENT C
City of Sugar Land Wastewater Treatment Plant
Diversion and Forcemain Upgrade Project
Phase 1A & 1B
Manhour Breakdown



	Sheet Description	Total Hours	Project Mgr \$128	Eng. \$110	Sr. Designer \$98	EIT \$90	Sec. / Admin. \$60
1	Title Sheet, Project Title Sheet, Vicinity Map	15	1		2	12	
2	Construction Notes & Index of Drawings	19	1	2		12	4
3	Sheet Layout & Core Boring Plan	22	1	1		20	
4	Baseline Ties and Benchmarks - Sheet 1 of 2						
5	Baseline Ties and Benchmarks - Sheet 2 of 2						
	Provided by Surveyor						
6	1B - Oilfield P&P 1	27	1	4	6	16	
7	1B - Oilfield P&P 2	27	1	4	6	16	
8	1B - Oilfield P&P 3	41	1	8	12	20	
9	1B - Oilfield P&P 4	41	1	8	12	20	
10	1B - Commonwealth P&P 1	41	1	8	12	20	
11	1B - Commonwealth P&P 2	41	1	8	12	20	
12	1B - Commonwealth P&P 3	41	1	8	12	20	
13	1B - Commonwealth P&P 4	41	1	8	12	20	
14	1B - Commonwealth P&P 5	41	1	8	12	20	
15	1B - Commonwealth P&P 6	41	1	8	12	20	
16	1B - Austin Parkway P&P 1	41	1	8	12	20	
17	1B - South WWT - Overall Site Plan	25	1	4	12	8	
18	1B - Plant Site Plan	29	1	4	12	12	
19	1B - Headworks - Plan Force Main Tie In	33	1	4	12	16	
20	1B - Tunnel & Casing Details	29	1	4	8	16	
21	1B - Bedding & Backfill Details	33	1	4	12	16	
22	1B - Pavement Details	33	1	4	12	16	
23	1B - Miscellaneous Details	33	1	4	12	16	
1	1A - Title Sheet, Project Title Sheet, Vicinity Map	7	1		2	4	
2	1A - Construction Notes & Index of Drawings	11	1	2		4	4
3	1A - Sheet Layout & Core Boring Plan - 1 of 2	22	1	1		20	
4	1A - Baseline Ties and Benchmarks - Sheet 1 of 2						
5	1A - Baseline Ties and Benchmarks - Sheet 2 of 2						
	Provided by Surveyor						
6	1A - Lexington Blvd to Town Center 1 of 2 P&P	23	1	2	4	16	
7	1A - Lexington Blvd to Town Center 2 of 2 P&P	23	1	2	4	16	
8	1A - Along Town Center	27	1	2	4	20	
9	1A - Town Center to HWY 59 1 of 3 P&P	61	1	8	12	40	
10	1A - Town Center to HWY 59 2 of 3 P&P	61	1	8	12	40	
11	1A - Town Center to HWY 59 3 of 3 P&P	27	1	4	6	16	
12	1A - HWY 59 Crossing P&P	35	1	4	6	24	
13	1A - Partial Site Plan North Plant	41	1	8	12	20	
14	1A - Tunnel & Casing Details	11	1	4	2	4	
15	1A - Bedding & Backfill Details	7	1		2	4	
16	1A - Pavement Details	7	1		2	4	
17	1A - Miscellaneous Details	7	1		2	4	
18	North WWT Lift Station Modification - Sheet 1 of 2	33	1	4	12	16	
19	North WWT Lift Station Modification - Sheet 2 of 2	33	1	4	12	16	
	SUB-TOTAL HOURS	1,130	38	164	296	624	8

Hours decreased due to previous effort

	Total Hours	Project Mgr	Engineer	Sr. Designer	EIT	Sec. / Admin.
AGENCY APPROVALS - TxDOT, Levee, Pipeline	44	8	16	16		4
SPECIFICATIONS	88	24	40	0	8	16
QUANTITIES	55	4	24	0	24	3
BID PHASE ASSISTANCE Phase 1B	38	8	8	16	4	2
BID PHASE ASSISTANCE Phase 1A	38	8	8	16	4	2
CONSTRUCTION PHASE SERVICES	To be negotiated at time of construction					
SUB-TOTAL HOURS	263	52	96	48	40	27
GRAND TOTAL HOURS	1,393	90	260	344	664	35
LABOR COST	\$135,692	\$11,520	\$28,600	\$33,712	\$59,760	\$2,100
EXPENSES (Mileage, Reproduction, Delivery)	\$4,308					

BASIC SERVICES **\$140,000**



ATTACHMENT D
City of Sugar Land Wastewater Treatment Plant
Diversion and Forcemain Upgrade Project
Phase 1A & 1B
Cost Estimate



ITEM NO.	ITEM DESCRIPTION	UNIT	QUAN.	UNIT PRICE	TOTAL AMOUNT	QUAN.	UNIT PRICE	TOTAL AMOUNT		PRICE	AMOUNT
			OPTION 2 - Phase 1B Replace existing 24" FM from Commonwealth Rd. @ ditch to WWTP along Commonwealth/Oldfield Rd alignment with 30" FM.			12" Force Main Replacement Replace 12" FM from Austin Flory LG to Commonwealth Rd. @ ditch along Austin Flory/Commonwealth Rd. alignment.			Phase 1A 12" Force Main From LG to North Plant		
1	12-inch PVC C-905 (DR25) sanitary sewer force main by open-cut	LF		\$60	\$0		\$60	\$0	3,101	\$60	\$186,060
2	24-inch PVC C-905 (DR25) sanitary sewer force main by open-cut	LF	100	\$90	\$9,000		\$90	\$0		\$90	\$0
3	30-inch PVC C-905 (DR25) sanitary sewer force main by open-cut	LF	4,560	\$150	\$684,000		\$150	\$0		\$150	\$0
4	12-inch PVC C-905 (DR25) sanitary sewer force main by augered	LF		\$80	\$0	2,672	\$80	\$213,760	1,131	\$80	\$90,480
5	12-inch PVC C-905 (DR25) sanitary sewer force main by tunnel in steel casing	LF		\$275	\$0		\$275	\$0	540	\$275	\$148,500
6	30-inch PVC C-905 (DR25) sanitary sewer force main by Tunnel	LF	220	\$650	\$143,000		\$650	\$0	0	\$650	\$0
7	Removal and replacement of existing concrete sidewalk	SF	9,600	\$6	\$57,600	802	\$6	\$4,812		\$6	\$0
8	Combination air release/vacuum valve, includes manhole	EA	4	\$7,500	\$30,000	2	\$7,500	\$15,000		\$7,500	\$0
9	force main to existing 12-inch sanitary sewer force main	EA	1	\$1,200	\$1,200		\$1,200	\$0		\$1,200	\$0
10	force main to existing 24-inch sanitary sewer force main	EA	1	\$2,500	\$2,500		\$2,500	\$0		\$2,500	\$0
11	Connect proposed 12-inch sanitary sewer force main to existing Lift Station header	EA		\$2,000	\$0	1	\$2,000	\$2,000	1	\$2,000	\$2,000
12	Connect proposed 30-inch sanitary sewer force main to existing WWTP header	EA	1	\$6,000	\$6,000		\$6,000	\$0		\$6,000	\$0
13	Abandon and grout fill existing 12-inch force main	LF		\$8	\$0	2,833	\$8	\$22,664		\$8	\$0
14	Abandon and grout fill existing 24-inch force main	LF	5,332	\$25	\$133,300		\$25	\$0		\$25	\$0
15	Remove and replacement of existing concrete pavement, including concrete curb	SY	1,425	\$75	\$106,875		\$75	\$0		\$75	\$0
16	Pump Replacement	LS		\$75,000	\$0		\$75,000	\$0	1	\$75,000	\$75,000
TOTAL SANITARY SEWER ITEMS:					\$1,173,475			\$258,236			\$602,040
				20%	\$234,695		20%	\$51,648		20%	\$100,408
			Total		\$1,408,170	Total		\$309,884	Total		\$602,448

Changes from Klotz PER

Grand Total (All 3 Projects) \$ 2,320,502